CIA/OER/S-07314-75 USE OF IDLE TANKERS FOR STORAGE SEP 75
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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

CIA/OER/S-07314-75

12 September 1975

MEMORANDUM FOR: Robert Copaken,
Office of International Energy Affairs,
Federal Energy Administration

SUBJECT : Use of Idle Tankers for Storage

The attached memorandum is in response to your request for information on the potential use of tankers for static petroleum storage. If you have further questions, please contact

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Availability of Idle Petroleum Tankers for Static Storage

Data compiled by H.P. Drewry -- London shipping consultants -- indicate that 34.3 million deadweight tons (DWT) of tankers -- nearly 13% of the world oil fleet -- were inactive as of the end of July, 1975. This figure does not include data on flag and location of the laid-up tankers, but this is available in other sources. One survey, for example, counted 386 foreign-flag tankers aggregating 26.5 million DWT laid-up or idle as of early June, a third of which were Norwegian flag. (see Tables 1 and 2). Of the Very Large Crude Carriers (VLCCs), 45 percent -- mostly Norwegian-owned -- were laid up in Norwegian waters (see Table 3). A mid-August MARAD survey found 32 US-flag tankers aggregating nearly 1.4 million DWT laid-up or idle, nearly all in US ports (see Attachment I). Most of the idle or laid-up tankers could be easily chartered and returned to service within a few days, but a massive surplus is expected to persist for several years.

Rather than scrapping serviceable tankers prematurely, various alternatives are being considered for minimizing investment losses during the readjustment period. Their employment as temporary static petroleum storage is under consideration in some quarters, but this alternative is extremely limited.

The Japanese Shipowners Association stated in mid-August that the employment of idled Japanese tankers as static petroleum storage is one of its recent proposals to the Ministry of Transport for government aid. This proposal apparently has been under consideration by government and industry for some time, but often denied.

We have no firm indication of how much tanker tonnage the Japanese believe could be effectively employed as static storage. Although the proposal is keyed to a plan to increase the national petroleum stockpile for the next 5 years by 222 million barrels*/. The equivalent of nearly 28 million DWT of tanker capacity, it seems unlikely that tankers would be used for more than a small fraction of the required capacity.

We believe that Tokyo will accede in some degree to the JSA proposal. Although government aid to the shipping industry has been trimmed over the past two years as industry profits soared to record levels, it has been a major factor behind the industry's

*/ The Ministry of International Trade and Industry (MITI) in 1972 initiated a three-year plan to increase Japan's petroleum stockpile to 280 million barrels -- a 60 day reserve -- by 31 March 1975. MITI is now overseeing a five-year plan to increase the nation's reserve to 502 million barrels -- a 90 day reserve at the projected 1980 level of consumption -- by the end of March 1980. For additional details of this plan see the Japan Petroleum Weekly, 21 October 1974 (copy attached).

remarkable growth over the past 15 years. In view of this, it is unlikely that the pleas of the particularly distressed tanker operators will be ignored.

If the government does decide to support the petroleum carriers, the temporary employment of some tankers for static storage could be preferable to subsidy grants. This would be particularly likely if MITI attaches some urgency to the expansion of national petroleum reserves, either as a hedge against further price increases or against the possibility of another disruption of petroleum supplies by OPEC.

Another factor favoring the proposal is the obligation of operators of Japanese flag ships to continue to pay full crew costs even if a ship is laid up. Thus, cost differentials between lay up and continued operations are minimal. An extreme shortage of land-based sites for industrial expansion is another factor. On the other hand, suitable anchorages for larger tankers are scarce, and the protests of environmentalists and fishermen to floating storage could become a limiting factor.

In addition to the JSA proposal, Philippine government officials in July informed Japanese ship operators of their interest in the possible employment of Japanese tankers for static storage. Nothing further has been heard of that approach as yet.

Oil producers are now giving more serious consideration to the use of tankers as an alternative to new investment in pipelines and land-based storage. Aramco, for example, has employed the 226,800 DWT "F.A. Davies" for static storage in conjunction with 2 monobouys at Zuluf and Marjan fields in the Persian Gulf since early 1973. This mode of operation permits loading of the largest tankers now in service in 100 foot water depths. Similar monobouy-tanker offloading systems are being used in current North Sea development to avoid costly offshore pipeline construction.

More than 90% of tanker capacity is designed for the transport of crude petroleum rather than petroleum products. Crude carriers can be cleaned and used for product storage, but at increased risk and with greater likelihood of storage losses and environmental contamination, especially in the case of older ships and more volatile cargoes. For the transport and storage of gasoline and other finished products, tankers of 30,000 DWT, or less -- about 10% of the world tanker fleet -- are more suitable for service in the many shallow water ports than the larger petroleum carriers.

Table I

Foreign-flag Tankers Laid-up or Idle, by Flag
as of June 1975

Flag	Number of Ships	Tonnage 000 DWT	Percentage of Total Tonnage
Total	386	26,522	100
Norway	77	8,772	33
Liberia	129	2,063	8
Greece	51	1,808	7
UK	24	1,664	6
Italy	20	1,317	5
Other	85	10,898	41

Table II

Foreign-flag VLCC[1/] Tankers Laid-up or Idle, by Location as of June 1975

Location	Number of Ships	Tonnage 000 DWT	Percentage of Total Tonnage
Total	35	8,833	100
Norway	15	3,995	45
Greece	4	893	10
Sweden	3	788	9
Italy	3	718	8
US	2	570	6
Singapore	1	309	4
France	1	280	3
Persian Gulf	1	228	3
England	1	227	3
W. Germany	1	219	2
Other	3	609	7

1/ Very Large Crude Carriers (VLCCs) are those tankers with capacities greater than 175,000 DWT.

Table III

Foreign-flag Tankers Laid-up or Idle, by Location as of June 1975

Location	Number of Ships	Tonnage 000 DWT	Percentage of Total Tonnage
Total	386	26,522	100
Norway	67	8,234	31
Greece	136	6,469	24
Italy	34	2,186	8
Sweden	20	1,969	7
US	14	1,126	4
Japan	7	713	3
Singapore	11	689	3
Denmark	8	563	2
W. Germany	4	547	2
England	11	531	2
Other	74	3,495	13

OFFICE OF SUBSIDY ADMINISTRATION
DIVISION OF TRADE STUDIES AND STATISTICS
(August 20, 1975)

U.S. FLAG TANKERS IDLED OR IN LAY-UP:

DWT	SHIP	POSITION	IDLE COMMENCE
43,506	ACHILLES (*) (X)	Tampa	4/7/75
24,437	ALASKAN (CHEM)	Port Neches	8/11/75
34,890	AMERICAN EAGLE (X)	Port Arthur	8/4/75
31,857	ATLANTIC ENTERPRISE (+) (X)	Norfolk	5/22/75
26,621	BIRCH COULIE (X)	Orange	8/27/74
225,280	BROOKLYN (*)	Aalasund, Norway	5/12/75
34,779	CITIES SERVICE MIAMI (+) (X) (IDLE)	Port Arthur	7/17/75 ✓
34,750	CITIES SERVICE NORFOLK (+) (IDLE) (REPAIR)	Port Arthur	7/26/75 ✓
20,471	DAVID E. DAY (+) (X)	Mobile	4/12/75
33,719	EAGLE VOYAGER (*)	Georgia	3/7/75
24,404	HESS BUNKER (+) (X)	Mobile	8/17/74
24,483	HESS PETROL (+)	Mobile	4/13/75
24,438	HESS REFINER (+) (X)	Mobile	4/7/75
24,513	HESS TRADER (+) (X)	Mobile	8/19/74
80,759	JOSEPH D. POTTS	Philadelphia	7/17/75 ✓
20,872	JULESBURG (X)	Orange	8/5/74
18,635	KEYTANKER	Orange	7/7/75 ✓
17,272	LELAND I. DOAN (CHEM) (X)	Savannah	7/25/75 ✓
113,947	MANHATTAN (*) (X)	Brooklyn	10/31/74
49,330	MOBIL MERIDIAN (+) (IDLE)	Port Arthur	5/19/75
49,451	MONTPELIER VICTORY (*) (X)	Baltimore	3/20/75
47,184	MOUNT WASHINGTON (*)	MSC Charter	7/17/75 ✓
28,468	OGDEN YUKON (X)	Tampa	8/20/75
31,167	OVERSEAS EVELYN (X)	Mobile	1/21/75
31,226	OVERSEAS ROSE (X)	Port Arthur	1/20/75
80,569	SOHIO RESOLUTE (*) (X)	Philadelphia	1/8/75
21,010	TEXAN (+) (X)	Mobile	2/13/75
20,285	TRANSERIE (X)	Port Arthur	8/27/74
28,684	TRANSPANAMA (X)	New York	1/13/75
20,276	TRANSSUPERIOR	Port Neches	8/11/74
82,199	ULTRAMAR (OBO) (*) (X)	Jacksonville	1/28/75
16,735	VIRGINIA TRADER	Newport News	8/1/75 ✓
1,366,217	32 ships		

SUMMARY

a)	(*)	Title XI ships	8	(675,855 DWT)
b)		Idle ships: Tankers	29	(1,242,309 DWT)
		OBOs	1	(82,199 DWT)
		Chem	2	(41,709 DWT)
c)	(+)	Proprietary Carriers	10	(290,035 DWT)
		Independents	22	(1,076,182 DWT)
d)	(X)	USCG Cert. Expired	22	(807,901 DWT)

October 21, 1974 (Vol.9, No.42)

JAPAN PETROLEUM WEEKLY

JAPAN ENVISAGES 90-DAY OIL STOCKPILE BY FISCAL 1979 END

Japan is expected to hold a 90-day oil stockpile* by the end of fiscal 1979 - i.e. March 31, 1980. The 90-day target is based on the estimated inland consumption of fuel type products - i.e. gasoline, naphtha, jet fuel, kerosine, gas oil, fuel oils A, B, and C - during calendar 1979, in accordance with the formula being employed by the Organization for Economic Cooperation and Development (OECD).

This is the final objective of the new five-year plan recently worked out and published on October 3, 1974 by the Resources & Energy Agency of the Ministry of International Trade and Industry in line with Japan's proposed participation in the International Energy Program recently formulated in Brussels by the twelve-nation Energy Coordination Group and scheduled to be adopted at the OECD meeting to be held mid November of this year.

As of the end of fiscal 1971, Japan's oil stockpile totalled 30.1 million kiloliters, or 189 million barrels, representing 48.2-day stocks, which was extremely at a low level judged from the OECD standards. Beginning in fiscal 1972, MITI initiated a three-year plan for raising the nation's oil stockpile up to 44.5 million kiloliters, or 280 million barrels, 60-day level by the end of fiscal 1974. In an effort to further raise the oil stockpile, MITI now envisages a far more ambitious plan, building up the additional 30-day stockpile in next five years, thereby increasing the stockpile up to 79.8 million kiloliters, or 502 million barrels, 90-day level by the end of fiscal 1979.

It should be clarified here that the basis for the current three-year plan shooting for the 60-day target by the end of fiscal 1974 considerably differs from the basis for the new five-year plan aiming at the 90-day target by the end of fiscal 1979, as compared below:

	Current 3-Year Plan	New 5-Year Plan
Stockpile target	280 million bbls, or 60-day stocks by the end of fiscal 1974	502 million bbls, or 90-day stocks by the end of fiscal 1979
Basis on which day-stocks are computed	Inland consumption during fiscal 1975 (MITI formula)	Inland consumption during calendar 1979 (OECD formula)

(*) Includes running stocks, as the Japanese way of using the word "stockpile" implies.

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JAPAN ENVISAGES 90-DAY OIL STOCKPILE (continued)

Illustrated otherwise, the oil stockpile of 280 million barrels, which will be reached by the end of fiscal 1974, or 60-day stocks by MITI formula - i.e. on the basis of inland consumption during fiscal 1975 which is the twelve-month period immediately following fiscal 1974, will represent 66-day stocks, if computed by OECD formula - i.e. on the basis of inland consumption during calendar 1974 which is the twelve-month calendar year immediately preceding the end of fiscal 1974.

The new five-year plan calls for promulgation of the "Oil Stockpile Law", draft for which now is being prepared by MITI, and establishment of a new Government-run corporation to be named "Oil Stockpile Corporation". The Corporation will be responsible, among others, for the following:

(1) Purchase of land and construction of oil storage facilities for holding 15-day stocks (out of 90-day stocks) as of the end of fiscal 1979.

(2) Borrowing money from outside and re-lending the same as "free of interest" loan to refiners to financially help them purchase land and construct oil storage facilities for holding 75-day stocks as of the end of fiscal 1979.

(3) Borrowing money from outside and re-lending the same as "free of interest" loan to refiners to financially help them purchase additional quantities of crude oil to build up 90-day stocks as of the end of fiscal 1979.

The foregoing loan to refiners will finance 90 per cent of total capital expenditures required on the part of refiners, the Corporation absorbing the whole amount of interest to be charged on the borrowed money.

Summarized below are the key figures of the five-year plan:

Symbols:
- (A) = No. of days of oil stocks as of the end of fiscal year concerned.
- (B) = Inland consumption of fuel type products according to the latest five-year (fiscal 1974-1978) petroleum demand forecast on a fiscal year basis*. (See JPW dated October 7, 1974)
- (C) = Inland consumption of fuel type products on a calendar year basis, as computed by multiplying the (B) figure by a factor of 0.9635.
- (D) = Stockpile of fuel type products required as of the end of fiscal year concerned. = (C) x (A)/365 or 366
- (E) = Stockpile of fuel type products to be built up during the fiscal year concerned.
- (F) = Stockpile of crude oil to be built up during the fiscal year concerned.

The starting point of the following table for the five-year period (fiscal 1975-1979) is the end of fiscal 1974, at which time the Japanese refiners are supposed to have a combined stockpile totalling 44.5 million kiloliters, or 280 million barrels. This 44.5 million-kiloliter stockpile is equivalent to 60-day stocks based on the inland consumption of fuel type products during the subsequent twelve-month period - i.e. fiscal 1975, as illustrated below:

271.8 million kl's x 60/366 = 44.5 million kl's

(*) The inland consumption forecast for fiscal 1979, which is missing in the latest five-year (fiscal 1974-1978) plan, is assumed to be 5.6 per cent higher than that for fiscal 1978.

JAPAN ENVISAGES 90-DAY OIL STOCKPILE (continued)

Fiscal Year	(A)	(B)	(C)	(D)	(E)	(F)
1975	70	271,753	261,834	50,200	5,700	6,200
1976	75	288,672	278,135	57,000	6,800	7,400
1977	80	302,040	291,016	63,800	6,800	7,400
1978	85	318,245	306,629	71,400	7,600	8,300
1979	90	336,067	323,800	79,800	8,400	9,200

As shown in the foregoing table, Japan's oil stockpile will be increased from 44.5 million kiloliters as of the end of fiscal 1974 up to 79.8 million kiloliters as of the end of fiscal 1979, both in terms of refined fuel type products. In terms of crude oil, these figures become 48.4 and 86.7 million kiloliters respectively. While the stockpile itself is wholly owned by the industry, the facilities to hold that stockpile will be shared by the industry and the Corporation (i.e. Government) as shown below:

(Unit:Million Kiloliters)	Product Basis	Crude Basis
A. End of fiscal 1974 (60-day stocks wholly owned by industry)	44.5	48.4
B. End of fiscal 1979:		
75-day stocks owned by industry	66.5	72.3
15-day stocks owned by Corporation	13.3	14.4*
	79.8	86.7
Incremental (B - A):		
Owned by industry	22.0	23.9
Owned by Corporation	13.3	14.4*
	35.3	38.3

(*) In actuality, 2.6 out of 14.4 will be taken care of by industry, as already included in the CTS (central terminal station) expanion plan, thus making 11.8 to be owned by Corporation.

In addition to the foregoing financial assistance by the Corporation in the form of sharing a part of the facilities and of providing the interest-free loan to refiners to help them purchase crude oil and construct the storage facilities, the special taxational preference as outlined below will be given to refiners in their efforts to increase the oil stockpile:

(1) Special depreciation applicable to crude oil storage tanks
An accelerated depreciation will be allowed on crude oil storage facilities by doubling the amount of the ordinary depreciation.

(2) Reduced property tax rate applicable to crude oil storage tanks
Property tax rate on crude oil storage facilities will be reduced down to one-third of the ordinary rate.

(3) Special funds will be granted to local Governments of towns and villages where oil stockpile facilities will be built, which will be used for the betterment of the welfare facilities for local citizens, so that the opposition by the local inhabitants against the oil stockpile project can be minimized.

The following table summarizes the MITI-drafted budget for the new five-year plan for increasing the oil stockpile. It will be noted that the amount of budget will total 1,711,400 million yen, or equivalent to approximately $5,700 million - broken down into 666,600 million yen in the General Account and 1,044,800 million yen in the Fiscal Loan & Investment Program:

Budget For 90-Day Oil Stockpile Project

(Unit: YMillion)

	Fiscal 1975	Fiscal 1976	Fiscal 1977	Fiscal 1978	Fiscal 1979	Fiscal 1980	Cumulative Total
A. General Account:							
Construction of stockpile terminals							
No.1 project	48,100	56,800	84,100	64,100	12,700	-	265,800
No.2 project	7,000	24,600	23,200	20,400	4,400	-	79,600
	55,100	81,200	107,300	82,500	17,100	-	325,200
Grants to local governments	7,000	10,700	12,400	10,200	8,900	8,400	57,600
Absorption of differential interest by Corporation	5,800	20,400	37,000	50,900	62,900	70,200	247,200
Reserve for bad debts	1,500	2,400	2,100	1,900	1,700	900	10,500
Overhead and general administration	1,200	900	900	900	900	900	5,700
Total	70,600	115,800	159,700	148,400	91,500	80,600	666,600
B. Fiscal Loan & Investment Program:							
Loan for financing purchase of land	42,700	53,300	23,200	18,500	-	-	137,700
Loan for financing construction of stockpile facilities	52,000	52,800	44,200	17,800	5,700	-	172,500
Loan for financing import of crude oil for stockpile use	59,000	129,500	141,200	150,000	167,100	87,800	732,600
Total	153,700	235,600	208,600	186,300	172,800	87,800	1,044,800
General Account and Fiscal Loan & Investment Program (A + B)	224,300	351,400	368,300	334,700	264,300	168,400	1,711,400

(Source: Resources & Energy Agency, MITI)

Japan Petroleum Weekly, October 21, 1974 (Vol.3, No.42)

JAPAN ENVISAGES 90-DAY OIL STOCKPILE (continued)

Outlined below are the financial assistance and the special taxational measures being granted by the Japanese Government to refiners under the current three-year program. It will be noted that the financial assistance and special measures (see pages 3 and 4) proposed for the new five-year plan are much more thoroughgoing than those for the current three-year plan:

(1) JPDC loan for crude oil import for stockpile use

By the end of fiscal 1973, the Japan Petroleum Development Corporation has granted a cumulative total amount of Y18,000 million (or equivalent to approximately $60 million) loan to Japanese refiners to help them purchase additional quantities of crude oil for stockpile use.

The foregoing amount of Y18,000 million loan was budgeted in fiscal years 1972 and 1973 in the Petroleum Special Account: Y6,000 million in the fiscal 1972 budget and Y12,000 million in the fiscal 1973 budget. There was no budget for this purpose for fiscal 1974, because the time for budget compilation for fiscal 1974 coincided with the outbreak of the Middle East conflict which was accompanied by the oil production cut by the Arab oil-producing countries.

JPDC now is requesting the Ministry of Finance to approve the JPDC loan totalling Y100,000 million during fiscal 1975 for the refiners' import of additional quantities of crude oil so as to increase the stockpile up to 60-day level. Obviously, the large increase in the amount of JPDC loan reflects the sharply increased prices of crude oils in post oil crisis months. (As a matter of practical procedure, JPDC loan is granted to a refiner after the refiner's stockpile at a specified level is confirmed, and hence the fiscal 1975 budget for the import during fiscal 1974.)

The JPDC loan is repayable in five years after the three-year grace period. The interest on the loan currently is set at "prime rate* minus 2.1 per cent per annum".

(2) JPDC's absorption of differential interest rate

JPDC borrowed the foregoing Y18,000 million from outside with the guarantee by the Japanese Government at an annual interest rate "prime rate minus 0.1 per cent per annum" and re-lent the same amount to Japanese refiners at an annual interest rate "prime rate minus 2.1 per cent" as referred to above, JPDC absorbing the differential interest rate of 2 per cent per annum.

Against the loan totalling Y18,000 million, JPDC absorbed the differential interest totalling Y601 million.

(3) JDB loan for construction of crude oil storage tanks

Under the Fiscal Loan & Investment Program, the Japan Development Bank granted loan totalling Y6,400 million to refiners during fiscal years 1972 & 1973, and will grant Y6,000 million (estimted) during fiscal 1974 and Y3,000 million (proposed) during fiscal 1975 to partly - i.e. 40 per cent - finance the construction of storage tanks.

The JDB loan is repayable in 15 years including the three-year grace period. The annual interest rate is currently set at 8.5 per cent.

(4) Special depreciation on crude oil storage tanks

(*) Current prime rate is set at 9.25 per cent p.a.

JAPAN ENVISAGES 90-DAY OIL STOCKPILE (continued)

An accelerated depreciation - i.e. 50 per cent higher than the ordinary depreciation - is allowed for the five-year period on the crude oil tanks built during the period from April 15, 1972 to March 31, 1975.

(5) Reduced property tax on crude oil storage tanks

The property tax rate on crude oil tanks built during the period from January 2, 1973 to March 31, 1975 is lowered by one-third down to two-thirds of the ordinary rate.

The following table shows the rapid growth of Japan's oil storage tank capacities as well as the oil inventory stocks during the past five years:

Tank Capacity (Unit:Cubic Meters)

Calendar Yearend	Crude Oil	Semi-Products	Products	Total
1969	21,433,927	6,557,224	18,295,204	46,286,355
1970	25,951,225	8,414,046	20,273,142	54,638,413
1971	30,250,648	10,813,233	23,845,805	64,909,686
1972	38,833,154	13,623,329	26,927,554	79,384,037
1973	42,405,705	14,816,687	29,184,147	86,406,539
Average annual growth (1973 vs 1969)	18.6%	22.6%	12.4%	16.9%

Inventory Stocks (Unit:Kiloliters)

Calendar Yearend*

1969	9,155,377	3,392,323	9,042,093	21,589,793
1970	10,383,449	4,754,150	11,895,241	27,032,840
1971	14,219,893	4,558,427	12,924,057	31,702,377
1972	16,373,688	6,746,970	13,220,703	36,341,361
1973	20,432,659	7,603,401	15,657,902	43,693,962
Average annual growth (1973 vs 1969)	22.3%	22.4%	14.7%	19.3%

Fiscal Yearend*

1969	9,785,250	3,048,159	7,226,016	20,059,425
1970	11,192,085	4,466,607	10,628,265	26,286,957
1971	13,240,537	5,401,990	11,480,669	30,123,196
1972	15,585,851	6,513,012	10,615,701	32,714,564
1973	19,422,149	7,278,959	12,750,805	39,453,913
Average annual growth (1973 vs 1969)	18.7%	24.3%	15.3%	18.4%

Rate of tank capacity utilization

Calendar Yearend

1969	42.7%	51.7%	49.4%	46.6%
1970	40.0	56.5	58.7	49.5
1971	47.0	42.2	54.2	48.8
1972	42.2	49.5	49.1	45.8
1973	48.2	51.3	53.7	50.6

(*) The semi-products and products inventory stocks as of the end of calendar year are normally higher than those as of the end of fiscal year, because the kerosine stockpile for household heating uses normally is used up at the end - i.e. March 31 - of each fiscal year.

JAPAN INVESTIGATES 90-DAY OIL STOCKPILE (continued)

The following table shows Japan's historical oil inventory stocks in terms of number of day-stocks, as computed by the MITI formula - i.e. yearend inventory stocks against the inland consumption during the subsequent twelve-month period.

It is noted below that the fiscal 1973 yearend record of 58.6 day-stocks is nearly the 60-day target to be achieved by the end of fiscal 1974, but this apparent high level of stockpile in terms of day-stocks is simply ascribable to the fact that the oil consumption during fiscal 1974 now is estimated to be lower than originally predicted - i.e. about the same level as the actual results for fiscal 1973.

(Unit:Day-Stocks)	Crude Oil	Semi-Products	Products	Total
Calendar Yearend:				
1969	17.9	6.6	17.6	42.1
1970	18.4	8.4	21.0	47.8
1971	23.5	7.5	21.4	52.4
1972	23.6	9.7	19.1	52.4
1973	30.4	11.3	23.3	64.9
Fiscal Yearend:				
1969	18.3	5.7	13.5	37.5
1970	19.6	7.8	18.6	46.0
1971	21.2	8.6	18.4	48.2
1972	22.1	9.3	13.1	47.5
1973	28.9	10.8	18.9	58.6

Listed below is the latest available information on Japan's oil storage tank capacities on a company-to-company basis as of December 31, 1973:

(Unit:Cubic Meters)		Refined Products			Semi-
Oil companies	Crude Oils	Refineries	Terminals	Total	Products
Asia Oil	597,000	468,900	-	468,900	136,400
Ashi-Kyoseki	470,000	280,000	-	280,000	120,000
Daikyo Oil	1,313,400	381,317	549,195	930,512	483,980
Esso Standard	-	-	442,553	442,553	-
Fuji Kosan	629,000	179,950	70,480	250,430	81,600
Fuji Oil	1,686,000	443,500	-	443,500	523,000
General Oil/ General Oil Ref.	823,000	995,500	367,378	1,362,878	142,000
Idemitsu Kosan	5,547,000	2,063,120	1,212,615	3,275,735	3,165,600
Kansai Oil	1,060,000	455,700	-	455,700	255,500
Kashima Oil	1,895,000	458,000	-	458,000	642,000
Koa Oil	1,179,800	516,800	-	516,800	1,045,200
Kygnus Oil	-	-	93,388	93,388	-
Kyodo Oil	-	-	641,398	641,398	-
Kyokuto Petroleum	810,000	586,500	-	586,500	422,000
Kyushu Oil	970,000	734,150	-	734,150	274,000
Maruzen Oil	1,630,815	1,328,273	572,493	1,900,766	925,133
Mitsubishi Oil	2,188,000	1,126,560	447,407	1,573,967	1,405,920
Mobil Oil	-	-	588,463	588,463	-
Nansei Oil	477,000	349,900	-	349,900	5,400
Nichimo Oil Ref.	288,400	189,400	-	189,400	125,200

- To be continued on next page -

JAPAN LIVESTOCK'S 90-DAY OIL STOCKPILE (continued)

(Unit: Cubic Meters)

	Crude Oils	Refined Products			Semi-Products
		Refineries	Terminals	Total	
Oil companies (cont'd)					
Nihonkai Oil	490,000	24,000	-	24,000	198,200
Nippon Mining	1,523,104	775,113	-	775,113	411,502
Nihon Seiro	76,631	10,235	-	10,235	42,591
Nippon Oil/Nippon Petroleum Ref.	2,562,850	3,508,051	1,394,627	4,902,678	1,176,564
Okinawa Pet. Ref.	48,000	546,600	-	546,600	97,600
Seibu Oil	740,000	256,000	-	256,000	164,000
Shell Oil	-	-	1,253,227	1,253,227	-
Showa Oil	1,447,000	598,100	819,346	1,417,446	148,374
Showa-Yokkaichi	2,049,927	440,165	-	440,165	601,658
Taiyo Oil	372,200	102,553	1,070	105,623	93,714
Teiseki Topping	10,200	16,770	6,550	23,320	100
Toa Nenryo	3,180,578	1,063,333	-	1,063,333	1,155,841
Toa Oil	168,000	137,000	-	137,000	203,800
Toa-Kyoseki	860,000	234,000	-	234,000	293,000
Toho Oil	441,000	179,000	-	179,000	11,500
Tohoku Oil	694,000	397,400	-	397,400	437,200
Toyo Pet. Ref.	123,000	156,200	-	156,200	28,110
Sub-total	36,348,905	19,004,090	8,460,190	27,464,280	14,816,687
CTS					
Nippon Oil Staging Terminal	4,222,000*	-	-	-	-
Ohgishima Terminal	504,000	-	-	-	-
Okinawa Terminal	1,200,800	-	-	-	-
Kansai Minas Kosan	130,000	-	53,000	53,000	-
Sub-total	6,056,800		53,000	53,000	
Trading companies					
Mitsui	-	-	211,450	211,450	-
Mitsubishi	-	-	268,000	268,000	-
C. Itoh	-	-	39,560	39,560	-
Marubeni	-	-	163,850	163,850	-
Sumitomo	-	-	14,000	14,000	-
Daito Tsusho	-	-	91,700	91,700	-
Kamei Shoten	-	-	31,312	31,312	-
Nissho-Iwai	-	-	143,450	143,450	
Kanematsu-Gosho	-	-	257,090	257,090	
Hayashikane	-	-	29,960	29,960	
Sub-total			1,252,372	1,252,372	
Others					
Nihon Oil Terminal	-	-	109,890	109,890	-
Tozai Oil Terminal	-	-	172,045	172,045	-
Others	-	-	129,760	129,760	-
Sub-total			411,695	411,695	
Grand total	42,405,705	19,004,090	10,177,257	29,181,347	14,816,687

(*) Scheduled to be expanded up to 6,600,000 M^3 by May, 1975.

(Source: MITI)